

ISBN 978-979-98938-5-7



# PROCEEDINGS of the International Seminar

The Council of Rector of Indonesian State University (CRISU)  
and The Council of University President of Thailand (CUPT)

“EXPLORING RESEARCH POTENTIALS”

Editors:

A. Muslim (Indonesia); Siti Herlinda (Indonesia); Nurly Gofar (Malaysia);  
Melanie Bournsell (Australia); K.T. Tantrakarnapa (Thailand);  
Judhiastuty Februhartanty (Indonesia); Misnaniarti (Indonesia);  
Najmah (Indonesia); Suci Destriatania (Indonesia)

Published by Sriwijaya University  
Cooperation with

The Council of Rector of Indonesian State University (CRISU)  
and The Council of University President of Thailand (CUPT)



**Proceedings of the International Seminar on Exploring  
Research Potentials, Palembang, 20-22 October 2011**

**The Council of Rector of Indonesian State University (CRISU) and the  
Council of University President of Thailand (CUPT)**

**Editors:**

**A. Muslim (Indonesia)  
Siti Herlinda (Indonesia)  
Nurly Gofar (Malasyia)  
Melanie Bournnell (Australia)  
K. T. Tantrakarnapa (Thailand)  
Judhiastuty Februhartanty (Indonesia)  
Misnaniarti (Indonesia)  
Najmah (Indonesia)  
Suci Destriatania (Indonesia)**

**Published by Sriwijaya University on Cooperation  
The Council of Rector of Indonesian State University (CRISU)  
The Council of University President of Thailand (CUPT)**

ISBN 978-979-98938-5-7

Copyright © 2011 by Sriwijaya University

All rights reserved. Publish in Indralaya, Indonesia

Reproduction or translation of any part of this Proceedings beyond that permitted by Sriwijaya University Copyright, without the permission of the copyright owner is unlawful. Requests for permission or further information should be addressed to Sriwijaya University

Sriwijaya University:

Jl. Palembang-Prabumulih Km. 32, Ogan Ilir, Indralaya, Indonesia  
Telephone +62711580069, 580169, 580645, facsimile: +62711580664

Proceedings of the International Seminar on Exploring Research Potentials,  
Palembang, 20-22 October 2011.

The Council of Rector of Indonesian State University (CRISU) and the  
Council of University President of Thailand (CUPT)

ISBN 978-979-98938-5-7

## FOREWORD

Dear special guests:

Minister for National Education, Ambassadors of Thailand for Indonesia, Ambassadors of Indonesia for Thailand, all delegates from The Council of Rector of Indonesian State University (CRISU) and The Council of University President of Thailand (CUPT), Government of South Sumatra and Palembang City, and all The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition participants

On behalf of the Sriwijaya University as Host University, I would like to extend my warmest welcome to all of the participant of The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition, held on 20<sup>th</sup>-22<sup>nd</sup> October 2011 at Sriwijaya University Palembang with the join theme "Exploring Research Potentials".

There will be many challenges and opportunities in higher education in the Asean Community in the next decade. This is, therefore, considerable significant will arise from the The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition. The previous five CRISU-CUPT conferences have been sigificantly deepening the relationships and come up with very fruitfull discussion in various subjects of collaboration and cooperation, for example, global warming, global mobility, academic interaction and cross-fertilization. The 5th conference was held in Chiang Mai, Thailand on July 7<sup>th</sup>-9<sup>th</sup> 2010 and appointed Sriwijaya University as a host for the 6th conference.

The 6th CRISO-CUPT conference will include many agenda, with not only include the meeting of the President Forum, the Dean Forum, and the Student Forum, but also will include international Seminar and Exhibition. This conference, therefore, might come up with more fruitfull conclusion and deepest commitment among participants.

With regard to considerable conference agenda, we greatly appreciate any support and sponshorship derived from any govermental as well as private institutions for the success of the conference. Great appreciation is also handed to organizing committe of the conference for any voluntarily effort that bring to the succes of the conference.

The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition is being attended by about 600 participants. I hope you enjoy the beauty of Palembang City as one of the oldest city in Indonesia which is 1318 years old, established during the glory of the vast Sriwijaya Kingdom. The city also have variety of interesting culture and places.

Palembang, October 2011  
Chairperson,



Prof. Dr. Badia Perizade, M.B.A  
Rector of Sriwijaya University

## TABLE OF CONTENTS

Foreword	iii
Table of Contents	iv
<b>Papers of Keynote Speakers:</b>	
1. Mental Illness In Australia ( <b>Dr. Melanie Bournnell</b> , University of Newcastle Australia)	xvi
2. Chemical Toxicology towards humans health and EHIA (Environmental Health Impact Assessment) in Thailand ( <b>Prof. Kraichat Tantrakarnapa</b> , Faculty of Public Health, Mahidol University, Thailand)	xxvi
3. Nutrition transition in Indonesia ( <b>DR. Ir. Judhiastuty Februhartanty</b> , M.Sc, SEAMEO RECFON Indonesia, Indonesia University)	xxxvii
4. Cancer : Genetic And Environmental Causes And Risk Factors ( <b>Prof Dato' Dr. M.S. Lye</b> , University Putra Malaysia)	vi
5. Accelerating Diversification In Food Consumption Based on Indigenous Resources as An Alternative Action To Support Food Security In Indonesia ( <b>Prof. Dr.Rindit Pambayun, M.P</b> , Sriwijaya University, Indonesia)	vi
<b>Papers of Presenters:</b>	
<b>A. Food Security</b>	
1. Diversity, Domination, and Distribution Of Rice Stem Borer Species and it Interaction with Egg Parasitoids in Various Land Typology in Jambi ( <b>Wilyus<sup>1</sup>, Siti Herlinda<sup>2</sup>, Chandra Irsan<sup>2</sup>, Yulia Pujiastuti<sup>2</sup></b> : <i>Agriculture Faculty of Jambi University, Faculty of Agriculture, Sriwijaya University</i> )	1
2. Land Suitability for <i>Elaeis Guineensis</i> Jacq Plantation in South Sumatra, Indonesia ( <b>M. Edi Armanto<sup>*1,2</sup>, M.A. Adzemi<sup>2</sup>, Elisa Wildayana<sup>1</sup>, M.S. Imanudin<sup>1</sup>, S.J. Priatna<sup>1</sup> and Gianto<sup>3</sup></b> ; <sup>1</sup> <i>Faculty of Agriculture, Sriwijaya University, South Sumatra, Indonesia</i> , <sup>2</sup> <i>Faculty of Agrotechnology and Food Science (FASM), UMT Terengganu, Malaysia</i> , <sup>3</sup> <i>Forestry Delineation Agency, Department of Forestry, Indonesia</i> )	10
3. From Economic Valuation to Policy Making in Forest Conversion for <i>Elaeis Guineensis</i> Jacq Plantation ( <b>Elisa Wildayana<sup>*1</sup>, M. Edi Armanto<sup>1</sup> and M.A. Adzemi<sup>2</sup></b> : <sup>1</sup> <i>Faculty of Agriculture, Sriwijaya University, Indonesia</i> , <sup>2</sup> <i>Faculty of Agrotechnology and Food Science (FASM), UMT Terengganu, Malaysia</i> )	19
4. Floating Agriculture Model from Bamboo for Rice Cultivation on Swamp Land At South Sumatra ( <b>Siti Masreah Bernas, Siti Nurul A.F. and Agung Maulana</b> : <i>Soil Science Program Study and Low Land Management Field, Agricultural Faculty, Sriwijaya University</i> )	27
5. The Responsiveness of Jambi Rice Acreage to Price and Production Costs ( <b>Edison</b> : <i>Faculty of Agriculture, Jambi University, Indonesia</i> )	34
<i>Proceedings of the International Seminar, Palembang 20-22 October 2011</i>	vi

6. Wage Rigidity Analysis as an Indicator of Agricultural and Non Agricultural Labor Market Distortions In Indonesia: Error Correction Model (ECM) Approach (Dessy Adriani<sup>2</sup>, Andy Mulyana<sup>3</sup>, Amruzi Minha<sup>3</sup>, Nurlina Tarmizi<sup>3</sup>; Faculty of Agriculture, Sriwijaya University, Indonesia) 40
7. Predator *Aphis gossypii* on Vegetable at Low Land areas in South Sumatera (Khodijah, Haperidah Nunilahwati, Dewi Medalima : Faculty of Agriculture, Sriwijaya University, Indonesia) 49
8. Population and Attack of *Liriomyza Sativae* (Diptera : Agromyzidae) and Its Interaction with Parasitoid on Tomato Cropping in Lowland of South Sumatra (Siti Herlinda, M. Yunus Umar, Yulia Pujiastuti, and Rosdah Thalib, Chandra Irsan : Plant Pest and Disease Department, Faculty of Agriculture, Sriwijaya University) 56
9. Integration of Palm Fruit Plantation And Cattle; Potential System to Improve Cattle Production (Armina Fariani, Arfan Abrar and Gatot Muslim : Animal Science Department, Faculty of Agriculture, Sriwijaya University) 66
10. Application of *Penicillium* spp. Produced in Waste Materials to Control Neck Root Rot Diseases Caused by *Sclerotium rolfsii* Sacc. on Chili (A. Muslim; Sari Eka Permata; Harman Hamidson : Program Study Agroecotechnology, Faculty of Agriculture, Sriwijaya University) 70
11. Purification and Characterization Collagenase from *Bacillus licheniformis* F11.4 (Ace Baehaki<sup>1</sup>, Maggy T.Suhartono<sup>2</sup>, Sukarno<sup>2</sup>, Dahrul Syah<sup>2</sup>, Azis B.Sitanggang<sup>2</sup>, Siswa Setyahadi<sup>3</sup> and Friedhelm Meinhardt<sup>4</sup> : <sup>1</sup>Departement of Fisheries Product Technology, Faculty of Agriculture Sriwijaya University, <sup>2</sup>Faculty of Agricultural Technology Bogor Agricultural University, <sup>3</sup>Agency for the Assessment and Application of Technology, Republic of Indonesia, <sup>4</sup>Institute for Molecular Microbiology and Biotechnology, University of Munster Germany) 75
12. Biological Reproduction *Menochilus Sexmaculatus* (F.) Predator Chili (*Aphis Gossypii* Glover) From Central Vegetable At Low Land Areas In South Sumatera (Haperidah Nunilahwati, Dewi Meidalima, dan Khodijah : Agriculture Faculty of Sriwijaya University, Indonesia) 84
13. Competitiveness and Minimum Regional Price of Arenga Palm Sugar ; Case Study of Small Palm Sugar Industries in Rejang Lebong Regency, Bengkulu Province (Ketut Sukiyono, Bambang Sumantri, Nusril And Evanila Silvia : Department of agricultural socio – economics, Faculty of Agriculture, Bengkulu University) 91
14. Plant Clinic: Driving Farmers Profit Partners (Chandra Irsan, Suwandi, A. Muslim, Siti Herlinda : Department of Plant Pests and Diseases, Faculty of Agriculture, Sriwijaya University) 98
15. The Role of Biotechnology In Overcoming the World Food Crisis (Suranto : Department of Biology, Faculty of Natural Sciences and Mathematic-UNS-Solo) 104
16. The Impact of Innovation Acceleration of Paddy Commodities at Irrigation Agroecosystem In Musi Rawas Regency (Yanter Hutapea and Tumarlan-Thamrin : South Sumatra Assessment Institute for Agricultural Technology, Indonesia) 110

17. Performance of Several High Lines of Tolerant Rice to Iron Toxicity in Tidal Swamp Area in South Sumatra 116  
(**Tumarlan Thamrin, Rudy Soehendi, Waluyo dan Syahri** : *South Sumatra Assessment Institute for Agricultural Technology, Indonesia*)
18. Performance of Submergence Tolerant Rice in South Sumatra to Anticipate the Impact of Climate Change 122  
(**Tumarlan Thamrin, Imelda SM, Waluyo dan Syahri** : *South Sumatra Assessment Institute for Agricultural Technology, Indonesia*)
19. The Dynamics of Iron (Fe) Solubility As a Result of Sulphate Acid Soil Reclamation and the Way to Control 128  
(**NP. Sri Ratmini<sup>1</sup>, dan Arifin Fahmi** : *South Sumatera Assessment Institute for Agricultural Technology, Indonesia*)
20. Increasing Income Through Implementation of Integrated Farming System in Tidal Swamp Area 137  
(**NP. Sri Ratmini dan Herwenita** : *South Sumatera Assessment Institute for Agricultural Technology, Indonesia*)
21. Study of Erosion on Different Types of Land Use in the Region Upstream Watershed Area (Das) Komering South Sumatra 144  
(**Satria Jaya Priatna<sup>1</sup>, M.Edi Armanto<sup>1</sup>, Dinar DA. Putranto<sup>2</sup>, Edward Saleh<sup>1</sup>, Robiyanto HS<sup>1</sup>, Niken Subesti<sup>1</sup> and S.N Aidil Fitri<sup>1</sup>** : <sup>1</sup>*Faculty of Agriculture, Sriwijaya University, South Sumatra, <sup>2</sup>Faculty of Engineering, Sriwijaya University, South Sumatra, Indonesia Indonesia*)
- B. Environmental and Climate Change**
22. Study of Palm Empty Fruit Bunches Processing Technology As Saccharide Source For Friendly Environment Surfactant (**Joni Karman** : *Assessment Institute for Agricultural Technology in South Sumatera*) 151
23. Assessment of Pb Content of Motor Vehicle Emissions of Origin On Soil And Plant In Island Village Semambu Km 22 Highways Indralaya – Palembang 161  
(**A. Napoleon, Dwi Probowati S, Marji Putranto** : *Faculty of Agriculture Sriwijaya University*)
24. Using The Forest Zone Through The Low Carbon Development for The Welfare of the Orround Forest Society (Using the Forest Zone through the Low Carbon Development for the Welfare of the Orround Forest Society) 168  
(**Najib Asmani** : *Agriculture Faculty and Graduate Post Program Sriwijaya University, Palembang, Indonesia*)
25. Run off, Erosion, and Yield of the Sweet Corn (*Zea mays* var. *saccharata*) as result of Sheep Manure Application and Terracing 174  
(**Ruarita Ramadhalina Kawaty** : *Faculty Agriculture Tridinanti University, Indonesia*)
26. Stilbcnes from The Heartwood of *Morus Nigra* and their Cytotoxicity 179  
(**Ferlinahayati<sup>1</sup>, Euis H. Hakim<sup>2</sup>, Yana M. Syah<sup>2</sup>, Lia D. Juliawaty<sup>2</sup>, Jalifah Latip** ; <sup>1</sup>*Department of Chemistry, Faculty of Mathematics and Natural Sciences, Sriwijaya University, <sup>2</sup>Natural Product Research Group, Department of Chemistry, Institut Teknologi Bandung, <sup>3</sup>School of Chemical Science & Food Technology,*

## USING THE FOREST ZONE THROUGH THE LOW CARBON DEVELOPMENT FOR THE WELFARE OF THE ORROUND FOREST SOCIETY<sup>1</sup>

**Najib Asmani<sup>2</sup>**

<sup>1</sup>Paper on "Exploring Research Potentials" International Seminar Cooperation between The Council of Rector of Indonesian State University (CRISU), The Council of University President of Thailand (CUPT) and Sriwijaya University, Palembang Oktober 20-22, 2011.

<sup>2</sup>Agriculture Faculty and Graduate Post Program Sriwijaya University, Palembang, Indonesia.  
Mobile Phone: +62811715025, email: [jib\\_mania@yahoo.com](mailto:jib_mania@yahoo.com)

### ABSTRACT

*Forest of Indonesia tends to decrease, if it left without conservation will release much the green house gas (GHG). The large of critical land until 2008 reach 78 million hectare, and 76 percent from it includes in forest area. The activity of illegal logging and changing forest to be plantation which people around the forest do, as indicators that the economic benefits from the forest are lower. The efforts from the government to conserve the forest are not available because of some handicaps like financial, human resources and management. To make stand of the preservation forest for human living just from non timber forest product not to guarantee to increase social welfare. On the other hand, changing forest to be timber and estate plantation contributing benefits for increasing the social welfare. Managing forest through low carbon development for social welfare is better than standing preserving forest for releasing emission but stil impoverishing the people. Converting the low carbon forest to give the welfare for people are still controversies, and it should be overcome to see the good solutions. Importantly, to set the integrated researchs for how to analyze and plan some designs using those in order to give the optimal results in balancing for ecology, economics and society. The existence of forest should make better carbon sink or ecology, better economic growth, and better social walfer.*

**Keywords:** *Forest Zone, New Design, Low Carbon, Economic Benefit, Social Welfare*

### INTRODUCTION

The existence of forest as natural resources should be used equally for economic growth, social welfare, and sustainable ecology. Tropical forest in Indonesia tends to decrease, changes its function into many activities caused by plantation, food crop, under ground mining and illegal logging. Forest cover in Indonesia till 2007 remained 92.328 million hectares from 132.399 million hectares (Sugardiman, 2010). The rate of deforestation and degradation is still high, 1.17 million hectares per annum in the period of 2000-2006, and decreasing at considerable rate into 0.8 million hectares per annum during the last 5 years (Pasaribu, 2011).

In the G-8 Forum in 2009, the President of Republic of Indonesia announced self reduction of emission rate at 26 percent by the end of 2020, and it may reaches 41 percent with international support. Forestry sector from land use change forest and peat fire in 2006 contributed emission reach 52.2 percent from 1.76 Gt of national emission total. In the next 2020, the national emission predicted to be as much as 2.95 Gt CO<sub>2</sub>e in business as usual (BAU), and as much ac 1.56 Gt comes from forestry sector. Target of the emission reducing from forestry sector at least 0.406 Gt. Beside reducing emission, It is also noted that Indonesia will maintain a proportional balance between emission reduction and economic growth for the prosperity of the people. (Sugardiman, 2010).



Even though the wood from the forest exploited excessively, the community around of the forest still lives in poor condition. Unfortunately, they cannot gain the benefit from timber activity and non-timber forest product (NTFP), as the main income (Asmani, 2011). Unhappily, the effect of forest cutting illegally and changing unsustainably results critical land. The total of it reach 77.81 hectare in 2008, or 76.04 percent of it existed in the production forest. It is still a problem for the government to do rehabilitating and pacifying the degraded and critical forest. Building it needs long-term period, big fund, skilled human resources, and sustainable management. A success for rehabilitating it achieved through the industrial timber plantation (ITP). But it still controversial, accused as evoking of emission release (Forestry Ministry, 2010).

Nowadays around 9.20 million hectares or 16 percent of the production forest total, allocated for ITP. Its realization until 2009, reach 4.50 million hectares or 49.0 percent from the total of its allocation (Forestry Ministry, 2010). Asmani *et. al.* (2011) reported that built the acacia ITP in the degraded peat land as the low carbon development could enhance the carbon stock, simultaneously to stimulate the economic growth and increase the social welfare. Acacia plant as sinks of emission from the atmosphere and protects peat from fire to avoid emission release. Its culture, cut and plant regularly in one period each 5 till 6 year, makes cash flow fluently as trigger to grow the regional economic and provide the jobs. It influences the community income increasingly, and finally the people become wealth and prosperity.

The aims of the research; First, to quantify the carbon sink of mixed secondary forest, industrial timber plantation and rubber estate crop, and to measure the carbon release from peat soil. Second, to study how much the NTFP benefit could be got from the existence of mixed secondary forest, industrial timber plantation and crop estate.

## MATERIALS AND METHODS

Assessment the release and sink carbon through estimating biomass carbon and peat carbon. To estimate the plant biomass needed 3 blocks, and each block contains 4 plots size 30 x 20 meter. Especially for plantations, each plot figures the age of plant, at least consist of 100 plant sample. In each plot made 2 sub plots, and its size made 2 x 2 meter in its quadrant for measuring litter and dead wood as biomass of under the tree. The Biomass predicted through measurement the diameter of tree at the height of adult breast (DBH). Contain of tree carbon each plants estimated as much as 50 percent of biomass weight (Brown, 1997). Total weight of biomass per plot analyzed by using the allometric, and conversed in hectare. Kinds of allometric used for estimating biomass weight of plant kinds: mixed secondary forest  $y = 0.11pDBH^{2.62}$  p means mass of tree (Kettering *et. al.*, 2001), rubber  $y = 0.095DBH^{2.62}$  (Pamoengkas *et. al.*, 2000), *Acacia mangium*  $y = 0.0533DBH^{2.717}$  (Heriansyah, 2005), and *Acacia crassicarpa*  $y = 0.0241DBH^{2.258}$  (Asmani *et. al.*, 2011). The release emission of peat soil measured by using the soil sample of sub plot as much as 100 till 200 grams, each every 30 cm until reaching 90 cm depth. Soil sample and under tree biomass sample analyzed at laboratory for detecting the carbon content. Data of release and sink carbon presented through many activities like peat fire and forest, drainage, activity of changing land, and kind of plants.

The location to study the benefit of NTFP determined using purposive sampling, considering the existence of the forest and plantation. Respondents selected by using simple random sampling method. Data collected by using questionnaire, and result of respondent review analyzed using tabulation. Data presented as result of research was the social welfare based on the income that people got from forest and plantation activity around them.

## RESULTS AND DISCUSSION

## A. Release and Sink Carbon

Deforestation without reforestation and management for sustainable forest, may release the green house gas (GHG) potentially. Change peat forest burned by fire and managed it without drainage will change the function of its carbon sink to be carbon release. Data of the carbon emission from the changing function of peat land forest and drainage system as Table 1.

Table no. 1. Emission of carbon of changing forest, and the influence of drainage system in peat land.

No.	Activity	Emission <sup>t-ha<sup>-1</sup></sup>		Reference
		C	CO <sub>2</sub>	
1.	Fire of forest biomass	200.00	734.000	Rahayu <i>et. al.</i> , 2005
2.	Fire of peat land <sup>cm<sup>-1</sup></sup>	5.00	18.35	Hatano <i>et. al.</i> , 2004
3.	Fire of people possession degraded peat land <sup>year<sup>-1</sup></sup>	5.19	19.04	Asmani <i>et. al.</i> , 2011
4.	Fire of HTI possession degraded peat land <sup>year<sup>-1</sup></sup>	0.71	2.60	Asmani <i>et. al.</i> , 2011
5.	After cutting secondary peat land forest <sup>year<sup>-1</sup></sup>	9.26	34.00	Jauhiainen <i>et. al.</i> , 2004
6.	Degraded peat land forest <sup>year<sup>-1</sup></sup>	10.60	38.90	Jauhiainen <i>et. al.</i> , 2004
7.	Open land with drainage into 60 cm depth <sup>cm<sup>-1</sup>year<sup>-1</sup></sup>	14.89	54.66	Hooijer <i>et. al.</i> , 2006
8.	Plantation with drainage into 80 cm depth <sup>cm<sup>-1</sup>year<sup>-1</sup></sup>	14.71	54.00	Murayama dan Bakar, 1996

The level of biomass as result of carbon sink depends on its kinds and age of plants. Some research reports about it, see Table 2.

Table no. 2. Carbon sinks of plant kinds.

No.	Plant kinds	Carbon Sink <sup>t-ha<sup>-1</sup></sup>	Carbon Sink <sup>t-ha<sup>-1</sup>year<sup>-1</sup></sup>		Reference
			C	CO <sub>2</sub>	
1.	Peat land forest	200.00	10.00	36.70	Joosten, 2007
2.	Mineral land forest	350.00	17.50	64.22	Joosten, 2007
3.	Hevea/rubber	97.00	3.88	14.23	Forest Ministry, 2010
4.	<i>Acacia mangium</i>	82.24	8.24	30.18	Heriansyah <i>et. al.</i> , 2003
5.	Palm oil	60.40	2.44	8.95	Rogi, 2002

Based this information, the changing of unproductive or degraded natural forest into estate crop, timber plantation and food crop should consider how big its carbon sink and emission avoidance. It should be managed in wise use and take note for selecting plant kinds and using the micro water management. If not, the peat land will subside and cause fire, and finally will be vanish and leave the critical land, changing its function from sink to release emission.

The Presidential Instruction Number 10 (Inpres No. 10) in 2011 on moratorium of new forest licensing and enhancement issued for forest management of primary forest and peat land. Apprehensively, Indonesian forest tends to decrease fluently without equal effort to conserve. In this condition, Indonesia could be the big emitter country in the world. In 2030 the forest will conserve in order to change it from net emitter to be net sink. Data from forest indicative map shows that deforestation and degradation is available not only in peat forest production but also in conservation and protection peat forest. Forest cover tends to decrease and changes its function to be degraded or critical land, than burns and releases the emission. Government hopes forest could

be well managed. The eternal forest must be established, and degraded forest should be rehabilitated to enrich the carbon stock. People around forest should be function as safeguard to avoid fire and illegal logging, and given incentive for their conservation activity. Some other researches should be created like agro forestry system to increase product and service forest, resistant plant to climate change, safety and development on dangerous species. All of these activities designed as low carbon development. Changing the forest to be estate crop, timber crop or agro forestry must be considered the land suitability, ecological function, emission release, and biodiversity scarcity.

#### **B. Social Welfare of People Live Around Forest and Plantation**

The existence of natural forest not only for eternity, but it must be used equally for economic growth and social welfare. The illegal logging activity and forest changing prove the eternal forest cannot provide the suitable income for people live in around forest. For reason to pull fill their basic need, still do cutting wood illegally, because no alternative jobs for increasing the income. The illegal logging activity just do by one period per year, more less 8 months, when rain season. Their gross return per day around 37 till 40 thousands per day or 6.6 till 8.1 millions per period, and usually left the debt, so they must continue the same work in the next period for paying the debt (MRPP, 2007). This situation as indicator, that eternal forest has not managed for NTFP activity and contributed low benefit for livelihood (Asmani, 2011).

People who did not join in illegal logging activity took income from many activities like swallow nest business and river fishing as NTFP. Part of them built rubber plantation. Others got benefit from service activity as plantation worker, trader, and river transportation businessman. The income of NTFP activity higher than illegal logging income, swallow nest business around 15 million rupiah per year, and income from fishing similarly to illegal logging activity about 6 million rupiah per year. Income from other activity twice times higher than illegal logging activity, around 13 till 16 million rupiah per year. The biggest one comes from rubber plantation was 68 millions rupiah per year (Bornia, Asmani and Hakim, 2011). The farmers around forest, who carried out the food crop got income around 12 million rupiah per year (Asmani *et. al.*, 2011). The people who live around forest realized that if they have compensation income better than illegal logging, then they will leave it.

As a comparison, people live around timber plantation in degraded peat land got higher income, even though they did not carry on business based on the land. They got income, from river fishing and wallow net business, as much as 20 million and 46 million rupiah per year. Trading and river transportation resulted 38 and 25 million rupiah per year. Laborer income per year was 14 million rupiah (Asmani *et. al.*, 2011). The high income that people got from timber plantation indicated that the changing for degraded peat forest of timber plantation gave benefit higher than eternal forest. Existing timber plantation with fasting growth acacia plant as main plant, ecologically it could decrease emission release and simultaneously sink emission higher than peat forest. Arresting illegal logging and associated trade should be balanced keeping steady the livelihood people live around the forest. Enhancement of forest management of forest land by concessionaire holders should consider the sustainable forest management.

The fact that eternal forest tends to decrease and its people still poor, cannot get the benefit excessively. The eternal forest cannot contribute the suitable benefit from the NTFP, finally the forest hard to arrest from illegal logging. The illegal logging just gives the benefit to the associate trader, not for people lives around the forest. Reach of national emission reduction may not influence the national economic growth. It needed some plans to design program or activity to support it. The national economic triggered grows highly with some activities to enrich carbon stock, at least to minimize carbon with low carbon activities. Changing unproductive secondary

forest to be timber plantation or rubber crop should be considered for economic growth and social welfare followed conserving the critical zone to guarantee ecological function, high conservation value, carbon sink and emission avoidance.

## CONCLUSION

The commitment of Indonesia government in 2020 should decrease emission reaching 26 present and economic increase reaching 7 percent (Pasaribu, 2011). Maintaining the eternal forest should be proportional balance between emission reduction and economic growth for the prosperity of the people. The exploring research needed to get the right answer how to manage the forest be equal between ecological and economic aspect. Some activities or researches should be to restore the degraded forest, decrease the regional economic, and increase social welfare. For the rules, the government is ready to review national and regional spatial plans, propose special law on illegal logging and forest crime to tackle illegal establishment of estate crops, mining and other using. Arrange of forest strategy and government rule. Optimizing the using of unproductive lands for estate and timber plantation, and rehabilitate the high conservation value of forest to maintain the eternity. Create more alternative economic income for rural community and establish for community-based forest management. Bring together high potential from business, government and civil society to jointly develop the required capabilities for leading profound innovation and in the context of low carbon development for climate change and natural resource management.

## REFERENCE

- Asmani, Najib. 2011. The Challenges of Reforestation of Peat Land Based on Industrial Timber Plantation and Social Forestry Management Unit (Case in Sinar Mas Forestry District of Ogan Komering Ilir, South Sumatra Province. Paper on Social Forestry and Climate Change National Seminaar of Social Forestry Communication Forum. Bogor September 6-9, 2011.
- Asmani, N., Sjarkowi, F., Susanto, R.H., Aanafiah, A. Kms., Soewarso, and Siregar C.A. 2011. Analysis of Carbon Sequence Value, and Benefit of Peat Forest Ecosystem Reforestation Based on Industrial Plantation Forest and Social Forestry Management Unit. Dissertation. Graduate Post Program Sriwijaya University. Palembang.
- Bornia, Nikko; Asmani, Najib; dan Hakim, Maryati. 2011. Analysis of Business Development of Used Illegal Logger at Merang REDD Pilot Project (MRPP) District of Musi Banyuasin, South Sumatra Province. Scription. Social Economic Department of Agriculture Faculty Sriwijaya University. Palembang.
- Brown, S. 1997. Estimating Biomass and Biomass Change of Tropical Forrest a Primer. FAO Forestry Paper No. 134. USA: FAO, Page 10 – 13.
- Forestry Ministry of Indonesian Republic. 2009. Indonesian Pulp and Paper, Disturbing Fact to Old Producers of Pulp and Paper *In* Pulp and Paper The Green Treasure. Opportunity, Expectation, and Challenges, Published by Indonesian Pulp and Paper Association. Jakarta.
- Hatano, R. Tomoaki, M., Untung, D., Limin, S.H., and Syaiful, A. 2004. Impact of Agriculture and Wild Fire on CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from Tropical Peat Soil in Central Kalimantan, Indoensia, Necessity of Establishment of Inventory on Carbon in Tropical Peat

- Land Ecosystems for Sustainable Agro Production and Environmental Conservation. Report Number 13574012, Field Science Center for Northern Biosphere, Hokaido University, Sapporo. pp 11-14.
- Heriansyah, Ika. 2005. Potential of Industrial Timber Plantation for sequester of Carbon. *Innovation*, Volume 3/XVII/March, 2007.
- Heriansyah, Ika, N.M. Heriyanto, Ch. A. Siregar, dan M. Kiyoshi. 2003. Estimating Carbon Fixation Potential of The Plantation Forest. Centre of Research and Forest Development and Natural Conservation, Ministry of Forestry, The Republic of Indonesia. Bogor.
- Hooijer, A.M. Silvius, H. Wosten, and S.E. Page. 2006. Peat-CO<sub>2</sub>, Assessment of CO<sub>2</sub> Emissions from Drained Peat Lands in SE Asia. *Wetland International and Delft Hydraulics, Reports Q394*.
- Jauhiainen, J., H. Vasander, A. Jaya, I. Takashi, J. Heikkinen, and P. Martikinen. 2004. Carbon Balance in Managed Tropical Peat in Central Kalimantan Indonesia. In wise use of peat lands proceedings of the 12 th International Peat Congress, 06-11.06.2004. Tenpore. Volume 1, Paivanen, J(ed). International Peat Society, Jyvaskyla. Finland. pp. 653-659.
- Joosten, H. 2007. Peatland and Carbon. Pp. 99-117 in Parish, F., Siri, A., Chapman, D., Joosten, H., Minayeva, T., and Silvius M(eds). *Assessment on Peat Land. Biodiversity and Climate Change Global Environmental Centre. Kualalumpur and Wetland International. Wageningen*.
- Katterings, M. Q., R. Coe, M. van Noordwijk, Y. Ambugau, and C. A. Palm. 2001. Reducing Uncertainty in The Use of Allometric Biomass Equation for Predicting Above Ground Tree Biomass in Mixed Secondary Forest. *For Ecol and Manage*. 146. P 199 – 209.
- MRPP. 2007. Survey of Illegal Logging Activity at MRPP Project in Lalan Forest Production Zone District of Musi Banyuasin. Report No. 05.STE.Final. April 2009. Forestry Department Agriculture Faculty Palembang Muhammadiyah University and GTZ. Palembang.
- Murayama, S and Bakar, Z.A. 1996. Decomposition of Tropical Peat Soils. Estimation of In Situ Decomposition by Measurement of CO<sub>2</sub> Flux. *Japan Agricultural Research Quarterly* 30: 153-158.
- Pasaribu, Hadi S. 2011. Forest Investment Program. Ministry of Forestry The Republic of Indonesia. Jakarta.
- Rahayu, S., B. Lusiana, and M. van Noordwijk. 2005. Above Ground Carbon Stock Assessment for Various Land Use System in Nunukan, East Kalimantan. Pp 21-34. *In Lusiana B., van Noordwijk, M., and Rahayu, S. (eds). Carbon Stock Monitoring in in Nunukan, East Kalimantan: A Spatial and Modeling Approach. World Agro forestry Centre, SE Asia, Bogor. Indonesia.*
- Rogi, J.E.X. 2002. Simulation Model of Nitrogen Dynamic for Palm Oil at Bekri National Plantation in Lampung Province, Dissertation. Bogor Agriculture University. Bogor.
- Sugardiman, Ruandha Agung. 2010. Emission Reference Level. Paper on The Second Regional Meeting of National Strategy and REDD+ National Action Plan. Jambi, October 2010. The Ministry of Forestry The Republic of Indonesia. Jakarta.

Halo, Najib Sign Out Opsi Bantuan

Dapatkan Firefox Terbaru

Mail Yahoo!

Cari  Cari di Mail

APA YANG BARU EMAIL MASUK (62) KONTAK UPDATE Seminar Informations di

Tulis Pesan Hapus Balas Teruskan Spam Cetak

Email Masuk **Seminar Informations dan Fee Payment Procedure** Sembunyikan Detail  
 Draft 3 DARI: CRISU CUPT2011 UNSRI Rabu, 5 Oktober 2011 20:20  
 Email Keluar KEPADA: Najib Asmani  
 Spam 1 CC: isnurhadi2020@gmail.com syamsuryadi@yahoo.com limal2003@yahoo.com  
 Sampah

Folder +  
 CDM  
 esdal  
 germany  
 HTI  
 KAPITA SELEKTA  
 najib  
 PASAKBUMI  
 REDD+  
 SELARAS

Dear Colleagues and CRISU-CUPT 2011 speakers,  
 I would like to remind you about:  
 First, the deadline of registration fee payment is October 13, 2011. Please don't forget to send your transfer slip (soft copy) to the organizing committee after transferring your registration fee.  
 Second, the schedule of oral presentations and list of the poster sessions will be announced on October 14, 2011.  
 Third, we will publish a proceeding book in the form of CD. The format of the paper refers to this format below:  
 -Consists of title, author/s, institution/s, abstract, key words, introduction, materials & methods, results & discussion, conclusion, and reference, the font is Times New Roman 11 letter with 1 line spacing, paper maximum 6 pages, written in MS word files  
 If you wish to publish your paper in the proceeding (CD), please submit your paper by Oct 10, 2011 to: [crisu-cupt2011@unsri.ac.id](mailto:crisu-cupt2011@unsri.ac.id)  
 Important information regarding the bank account can be seen at:  
<http://crisu-cupt2011.unsri.ac.id/index.php/menu/12>  
 Thank you very much for your attention and see you in Palembang.  
 Best regards,  
 Dr. Anis Sagaff  
 --- Original Message ---  
 From: "Najib Asmani" <[najib\\_mania@yahoo.com](mailto:najib_mania@yahoo.com)>  
 To: "CRISU CUPT2011 UNSRI" <[crisu-cupt2011@unsri.ac.id](mailto:crisu-cupt2011@unsri.ac.id)>  
 Sent: Wednesday, October 5, 2011 3:20:36 PM  
 Subject: BIs: registration and paper

Dear CRISU-CUPT 2011 Committee

I send my full paper and the registration fee I will transfer on October 6, tomorrow.  
 Thank you for your attention.  
 My Best Regards  
 NAJIB ASMANI

--- Pesan Asli ---  
 Dari: CRISU CUPT2011 UNSRI <[crisu-cupt2011@unsri.ac.id](mailto:crisu-cupt2011@unsri.ac.id)>  
 Kepada: Najib Asmani <[najib\\_mania@yahoo.com](mailto:najib_mania@yahoo.com)>  
 Cc:  
 Dikirim: Jumat, 23 September 2011 15:03  
 Judul: Re: registration and paper

OK, we have received your abstract. Please sent your full paper before October,5,2011.  
 Thanks.

Regards,  
 CRISU-CUPT 2011 Committee.

--- Original Message ---  
 From: "Najib Asmani" <[najib\\_mania@yahoo.com](mailto:najib_mania@yahoo.com)>  
 To: [crisu-cupt2011@unsri.ac.id](mailto:crisu-cupt2011@unsri.ac.id)  
 Sent: Friday, September 9, 2011 11:49:55 AM  
 Subject: registration and paper

Dear OC

Now, I forward my registration form and paper  
 many thanks for your attention and confirmation

my best regards  
 Najib Asmani

## FOREWORD

Dear special guests:

Minister for National Education, Ambassadors of Thailand for Indonesia, Ambassadors of Indonesia for Thailand, all delegates from The Council of Rector of Indonesian State University (CRISU) and The Council of University President of Thailand (CUPT), Government of South Sumatera and Palembang City, and all The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition participants

On behalf of the Sriwijaya University as Host University, I would like to extend my warmest welcome to all of the participant of The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition, held on 20<sup>th</sup>-22<sup>nd</sup> October 2011 at Sriwijaya University Palembang with the join theme **“Exploring Research Potentials”**.

There will be many challenges and opportunities in higher education in the Asean Community in the next decade. This is, therefore, considerable significant will arise from the The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition. The previous five CRISU-CUPT conferences have been sigificantly deepening the relationships and come up with very fruitfull discussion in various subjects of collaboration and cooperation, for example, global warming, global mobility, academic interaction and cross-fertilization. The 5th conference was held in Chiang Mai, Thailand on July 7<sup>th</sup>-9<sup>th</sup> 2010 and appointed Sriwijaya University as a host for the 6th conference.

The 6th CRISU-CUPT conference will include many agenda, with not only include the meeting of the President Forum, the Dean Forum, and the Student Forum, but also will include international Seminar and Exhibition. This conference, therefore, might come up with more fruitfull conclusion and deepest commitment among participants.

With regard to considerable conference agenda, we greatly appreciate any support and sponshorship derived from any govermental as well as private institutions for the success of the conference. Great appreciation is also handed to organizing committe of the conference for any voluntarily effort that bring to the succes of the conference.

The 6<sup>th</sup> CRISU-CUPT Conference, International Seminar and Exhibition is being attended by about 600 participants. I hope you enjoy the beauty of Palembang City as one of the oldest city in Indonesia which is 1318 years old, established during the glory of the vast Sriwijaya Kingdom. The city also have variety of interesting culture and places.

Palembang, October 2011  
Chairperson,



Prof. Dr. Badia Perizade, MBA  
Rector of Sriwijaya University

**B. INTERNATIONAL SEMINAR (EACH TOPICS WILL BE TAKEN AT SEPARATE PLACE/ROOM)**

**SEMINAR PROGRAM OUTLINE**

**1. Food Security, Environmental and Climate Change, Energy, Education and Others**

Time : Saturday, October 22<sup>nd</sup>, 2011

Place : Hall of Magister Management, Sriwijaya University

<b>Time</b>	<b>Specific agenda</b>	<b>Name of speaker</b>
07.30-08.00	<b>Audience registration</b>	<b>Committee</b>
08.00-08.30	<b>Opening Ceremony</b> - Seminar report by Chairman - Welcoming address by Rector of Sriwijaya University	Dr. Ir. A. Muslim, M.Agr. Prof. Badia Perizade, MBA
08.30-10.00	<b>Keynotes speakers</b> <b>Plenary Session I:</b> 1. Thai – Indonesia Collaboration in Food Security  2. Accelerating Diversification in Food Consumption Based on Indigenous Resources as an alternatif action to Support food security Situation in Indonesia  <b>Moderator :</b> Prof. Amzulian Rivai  Question and Answers (30 minutes)	<b>Dr. Siwat Thaiudom</b> (Suranaree University of Technology)  <b>Prof. Dr.Rindit Pambayun,</b> <b>M.P (Sriwijaya University,</b> <b>Indonesia)</b>
10.00 – 10.30	Coffee Break	
10.30 – 12.00	<b>Keynotes speakers</b> <b>Plenary Session II:</b> 1. Utilization of Laboratory in Engineering Education and Research  2. Environment and climate change  <b>Moderator :</b> Prof.Dr.Ir.Erika Buchari, MSCE  Question and Answers (30 minutes)	<b>Prof. Dr. Nurly Goffar</b> (Universiti Teknologi Malaysia)  <b>Takeshi Enoki</b> (JICA expert, Mitsubishi UFJ Research)
12.00-13.00	Lunch, Poster Session and Exhibition	
13.00-16.00	<b>Parallel Session:</b> <b>Sub-themes :</b>	



- |  |  |  |
|--|--|--|
|  | <ol style="list-style-type: none"><li>1. Food Security,</li><li>2. Environmental and Climate Change</li><li>3. Energy, Education and Other</li></ol> |  |
|--|--|--|

**Sub-theme : Environmental and Climate Change**

Room	Title	Time	Code Abstract
Room C Theme : <b>Environment and Climate Change</b>	22. Study Of Palm Empty Fruit Bunches Processing Technology As Saccharide Source For Friendly Environment Surfactant (Joni Karman)	Pkl. 13.00 -- 14.00	EC 01
	23. Assessment of Pb Content of Motor Vehicle Emissions of Origin On Soil And Plant In Island Village Semambu Km 22 Highways Indralaya -- Palembang (A. Napoleon, Dwi Probowati S, Marji Putranto)	Moderator: Prof.Dr.Ir. Daniel Saputra	EC 02
	24. Using he Forest Zone Through The Low Carbon Development For The Welfare Of The Around Forest Society (Using the Forest Zone through the Low Carbon Development for the Welfare of Society Around the Forest (Najib Asmani)		EC 03
	25. Run off, Erosion, and Yield of the Sweet Corn ( <i>Zea mays</i> var. <i>saccharata</i> ) As result of Sheep Manure Application and Terracing (Ruarita Ramadhalina Kawaty)		EC 04
Room C Theme : <b>Environment and Climate Change</b>	26. The Potential Of Integrated Bio-Cyclo Farming System As Climate Change Adaptation Strategy (Munandar, Renih Hayati, M.Ammar, and Erizal Sodikin)	Pkl. 14.00 - 15.00	EC 05
	27. Stilbenes From The Heartwood Of <i>Morus Nigra</i> And Their Cytotoxicity (Ferlinahayati, Euis H. Hakim, Yana M. Syah, Lia D. Juliawaty, Jalifah Latip)	Moderator: Prof. Dr. Mohammad Said, M.sc	EC 06
	28. Responses Of Several Tropical Plant Species To Polluted Air Condition In The City (E.S. Halimi and Dian Agustina)		EC 07
	29. Freshwater Fish Diversity in Pulokerto Musi River, Palembang-South Sumatra: a Preliminary Results (Hilda Zulkifli, Doni Setiawan and Indra Yustian)		EC 08